

WHAT IS CLAIMED IS:

1. A filter device for connection to a conduit, which comprises:

(a) a pressure housing;

(b) at least one ceramic membrane filter element located in the pressure housing; and

(c) at least one electrical conductor electrically connected with and effecting grounding of the ceramic membrane filter element.

2. A filter device according to claim 1 wherein:

(a) a member selected from the group consisting of the pressure housing and the conduit consists of an electrically conductive material;

(b) the ceramic membrane filter element is electrically connected with said member via the electrical conductor; and

(c) said member is grounded.

3. A filter device according to claim 1 wherein the conductor comprises a component separate from the pressure housing, said component electrically connecting the pressure housing or the conduit with the ceramic membrane filter element.

4. A filter device according to claim 1 wherein the ceramic membrane filter has at least one through hole and the conductor is inserted in the through hole.

5. A filter device according to claim 4 wherein the conductor extends along essentially the entire length of the through hole.

6. A filter device according to claim 5 wherein the conductor is electrically connected at each end with the pressure housing or the conduit.

7. A filter device according to claim 1 wherein the pressure housing has a central pressure housing part and a fitting at each end of said housing for connection to the conduit.

8. A filter device according to claim 1 wherein the ceramic membrane filter element has a plurality of through

openings and is electrically connected with only one electrical conductor extending through one of the through openings.

9. A filter device according to claim 8 further comprising an electrically conductive adhesive attaching the conductor onto the ceramic membrane filter element in the through opening.

10. A filter device according to claim 9 wherein the electrically conductive adhesive extends over essentially the entire face of the ceramic membrane filter element.

11. A filter device according to claim 9 wherein the electrically conductive adhesive extends partially into the through openings without the conductor.

12. A filter device according to claim 1 wherein a plurality of ceramic membrane filter elements are provided in the pressure housing, each ceramic membrane filter element electrically connected with a respective one of a plurality of electrical conductors.

13. A filter device for filtering a charged fluids, which comprises:

(a) a pressure housing;

(b) at least one ceramic membrane filter element located in the pressure housing; and

(c) a device for generation of an electrical field provided in the ceramic membrane filter element in order to electrically charge or discharge the fluid to be filtered.

14. A filter device according to claim 13 wherein the device for generation of an electrical field is a component of the pressure housing or is connected directly in series to the pressure housing.

15. A filter device according to claim 13 wherein the device for generation of an electrical field comprises a sacrificial electrode.

16. A filter device according to claim 13 further comprising two electrodes provided in the device for generation of an electrical field, an adjustment device coupled with the electrodes for adjustment of the strength of the electrical field, and an energy source connected to the electrodes.

17. A method for the microfiltration or ultrafiltration of a charged fluid which comprises:

(a) providing at least one ceramic membrane filter element in a pressure housing;

(b) supplying the fluid to the ceramic membrane filter element to filter the fluid; and

(c) generating an electric field to at least partially discharge or charge the fluid before or during filtering.